

REMARKS

Status of the Claims

Claims 30-47, 61, and 62 are currently pending. All claims were rejected in the Office Action mailed March 4, 2004. Claims 37 and 47 are currently amended herein. Amendments to the claims are fully supported by the specification, therefore no new matter is added by these Amendments. Applicants respectfully request reconsideration of the rejected claims in view of the Amendment submitted herein and the following remarks.

Rejection of Claims 30-47, 61, and 62 Under the Written Description Requirement of 35

U.S.C. § 112, First Paragraph

Claims 30-47, 61, and 62 were rejected in the March 4, 2004, Office Action under the written description requirement of 35 U.S.C. § 112, first paragraph, as containing subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. It is the apparent position of the U.S. Patent & Trademark Office ("PTO") that unless the term "non-fluorinated" is explicitly stated in the specification, it constitutes new matter. Applicants request reconsideration of this rejection for the following reasons.

To test the sufficiency of support to satisfy the written description requirement of an application, as in the present case, "the originally-filed disclosure would have conveyed to one having ordinary skill in the art that an [applicant] had possession of the concept of what is claimed." *Ex Parte Parks*, 30 USPQ2d 1234, 1237 (Bd. Pat. App. & Inter. 1993). *See also*: Guidelines for Examination of Patent Applications Under the 35 U.S.C. 112, ¶ 1 "Written Description" Requirement, 66 Fed. Reg. 1099, 1104 (Jan. 5, 2001), a copy of which was

provided with Applicants' Amendment and Response filed December 9, 2003. Both the Court of Appeals for the Federal Circuit and the PTO have rejected any requirement that the specification have an exact or *in haec verba* description of the claimed invention. *Crown Ops. Int'l, Ltd. V. Solutia Inc.*, 289 F.3d 1367, 1376 (Fed.Cir. 2002) and Guidelines at 1105. Rather, the written description requirement is satisfied by the disclosure of such descriptive means as words, structures, figures, diagrams, formulas, and the like, that fully set forth the claimed invention. *Crown Ops.*, 289 F.3d at 1376.

Respectfully, Applicants maintain that the amendment which recites a "non-fluorinated" chromium catalyst finds ample support within the specification. Applicants request that the Examiner reconsider the specification, particularly at page 5, line 17-page 6, line 6; Example 1 (page 22); Example 2 (page 25); and Example 3 (page 29) which provide precise, though not *in haec verba*, support that the chromium catalyst is a non-fluorinated catalyst. Respectfully, Applicants maintain that the positive recitations in Examples 1, 2, and 3 of "W.R. Grace Magnapore® 964" (Examples 1 and 2) or "963" (Example 3) "high porosity silica-titania" which contained "1% chromium" fully conveys the concept of effecting the catalytic reaction in absence of fluorine. Accordingly, Applicants maintain that the present invention is *fully set forth to one of ordinary skill* in the specification.

The PTO notes that the "...entire specification is utterly silent as to the criticality of the presence or absence of any halogen in the catalyst" (March 4, 2004 Office Action, page 2, paragraph 3), and declares that the inventors, at the time the application was filed, were not in possession of the claimed invention. Respectfully, Applicants maintain that the PTO has improperly required *in haec verba* support for non-fluorination, rather than the applying the proper legal standard which requires the invention to be fully set forth to one of ordinary skill,

and thus has failed to make a *prima facie* case for lack of written description under 35 U.S.C. § 112, first paragraph. Thus, MPEP 2173.05(i) provides that, “a lack of literal basis in the specification for a negative limitation may not be sufficient to establish a *prima facie* case for lack of descriptive support.”

Applicants respectfully refer to *Ex Parte Parks*, in which the Board likewise found an improper rejection under 35 U.S.C. § 112, first paragraph, noting the lack of a literal basis in the disclosure for a negative limitation "conducted in the absence of a catalyst" does not establish a *prima facie* case for lack of descriptive support. Similarly, Applicants' invention as recited in Claims 30-47, 61, and 62 is conducted in the absence of a fluorinated catalyst, utilizing a “nonfluorinated” catalyst, the recitation of which does not establish a *prima facie* case for a § 112 written description rejection.

Applicants request reconsideration of this rejection so as to avoid a "hypertechnical application of legalistic prose" relating to § 112, which Applicants respectfully assert is improper. See: *In re Johnson*, 558 F.2d 1008, 1019 (C.C.P.A. 1977). Accordingly, Applicants respectfully request the rejection of Claims 30-47, 61, and 62 under 35 U.S.C. § 112, first paragraph, be withdrawn, and these claims be allowed.

Rejection of Claims 30-47, 61, and 62 Under 35 U.S.C. § 112, Second Paragraph

Claims 30-47, 61, and 62. The rejection of Claims 30-47, 61, and 62 under 35 U.S.C. § 112, second paragraph, as being indefinite, was maintained in the March 4, 2004, Office Action. The PTO takes the position that Applicants' Markush language in Claims 30, 39, 46, 61, and 62 renders them indefinite.

Respectfully, Applicants request reconsideration of this rejection of Claims 30-47, 61, and 62 under 35 U.S.C. § 112, second paragraph, because Applicants have employed the MPEP-sanctioned, “alternative” Markush terminology when using “or” in these claims. As stated in the MPEP at § 2173:

When materials recited in a claim are so related as to constitute a proper Markush group, they may be recited in the conventional manner, or alternatively. For example, if “wherein R is a material selected from the group consisting of A, B, C and D” is a proper limitation, then “wherein R is A, B, C or D” shall also be considered proper.

MPEP § 2173.05(h)(I). Further, the MPEP provides:

Alternative expressions using “or” are acceptable, such as “wherein R is A, B, C, or D.”

The following phrases were each held to be acceptable and not in violation of 35 U.S.C. 112, second paragraph in *In re Gaubert*, 524 F.2d 1222, 187 USPQ 664 (CCPA 1975):

“made entirely or in part of”; “at least one piece”; and “iron, steel or any other magnetic material.”

MPEP § 2173.05(h)(II).

Respectfully, Applicants request this rejection of Claims 30-47, 61, and 62 under 35 U.S.C. § 112, second paragraph, be reconsidered and withdrawn, and these claims be allowed.

Claims 37 and 47. Applicants have amended Claim 37 to afford the required antecedent basis, and have also amended Claim 47 according to the Examiner’s suggestion. Applicants thank Examiner Pasterczyk for this suggestion, and respectfully request that these amendments be entered.

Accordingly, Applicants respectfully request this rejection of Claims 37 and 47 under 35 U.S.C. § 112, second paragraph, be withdrawn, and that these claims be allowed.

Rejection of Claims 30-47, 61, and 62 Under 35 U.S.C. § 103(a)

Claims 30-47, 61, and 62 were rejected in the Office Action mailed March 4, 2004, under 35 U.S.C. § 103(a), as unpatentable over U.S. Patent No. 4,735,931 to McDaniel et al. ("McDaniel"), in view of U.S. Patent No. 6,245,869 to Debras et al. ("Debras"), U.S. Patent No. 3,947,433 to Witt ("Witt"), and U.S. Patent No. 4,845,176 to Konrad et al. ("Konrad"). Respectfully, Applicants maintain that no *prima facie* case of obviousness under 35 U.S.C. § 103(a) has been made for at least the reasons that: A) McDaniel, Witt, Konrad, and Debras provide no motivation or suggestion to combine these references such that all the limitations of Applicants' Claims 30-47, 61, and 62 are rendered obvious; and B) the McDaniel, Witt, Konrad, and Debras references, even when combined, provide no reasonable expectation of success for the Applicants' claims.

U.S. Patent No. 4,735,931 to McDaniel et al. ("McDaniel"). McDaniel is cited for the proposition that, "McDaniel discloses a catalyst composition substantially reading on the present invention including one combination of cocatalysts presently claimed" (Office Action, page 5, last paragraph). The Office Action further states that, "McDaniel lacks disclosure of the other combinations of cocatalysts of the present claims as well as the pore volume and surface area of the catalyst" (Office Action, page 6, paragraph 1). Applicants maintain that McDaniel does not teach or suggest the present invention, nor does it teach or suggest *any* combination of cocatalysts as presently claimed, as the PTO asserts. McDaniel ('931) states that "[t]he cocatalyst is either a trialkyl boron component or a dialkyl aluminum alkoxide component..." (col. 3, lines 3-4; emphasis added). Indeed, nowhere in the specification is the Applicants' combination of cocatalysts taught or suggested.

Further, Applicants maintain that, regardless of any cocatalysts recited in McDaniel ('931), this reference cannot be combined properly with Witt, Konrad, and Debras, and even if combined, fails to render Claims 30-47, 61, or 62 obvious. Both Witt and Konrad require hexavalent Cr(VI)-based catalysts, whereas Claims 30-47, 61, and 62 are directed toward divalent Cr(II) catalysts. Accordingly, there is no motivation to combine these references, nor is there any reasonable expectation of success for the Applicants' claimed invention based on any combination of these references. Debras discloses a fluorinated chromium-based catalyst, and a cocatalyst system selected from at least one of an aluminum alkyl and zinc alkyl, and therefore neither teaches nor suggests any of Applicants' supports or cocatalysts. Again, there is no motivation to combine these references, nor is there any reasonable expectation of success for the Applicants' invention based on any combination of these references.

U.S. Patent No. 3,947,433 to Witt ("Witt"). Witt is cited by the Examiner for the proposition that, "it is conventional with chromium catalysts to use alkyl boron compounds and alkyl aluminum alkoxides as cocatalysts" (Office Action, page 6, paragraph 2). Applicants maintain that, regardless of any cocatalysts recited in Witt, Witt cannot be combined properly with McDaniel, Konrad, and Debras, and even if combined, Witt fails to remedy the deficiencies of McDaniel, either alone or in combination with Konrad and Debras, so as to teach or suggest a chromium catalyst as claimed in Claims 30-47, 61, or 62. Rather, Witt requires a hexavalent Cr(VI) oxide catalyst (col. 2, line 29; Claim 1) for which certain cocatalysts are employed. Witt's cocatalyst selection, therefore, requires a chromium catalyst in its *highest possible* oxidation state, d^0 Cr(VI), thereby providing no motivation for combining with McDaniel. Further, given the immeasurable differences between the chemistry of hexavalent Cr(VI) and divalent Cr(II) (*see, for example: Cotton and Wilkinson, Advanced Inorganic Chemistry, 5th Ed,*

pp. 679-697, Wiley Interscience, 1988), there can be no reasonable expectation of success for Applicants' claimed invention, even if the PTO improperly picks and chooses from any one reference only so much as will support a given position, to the exclusion of other parts necessary to the full appreciation of what the reference fairly suggests to one of ordinary skill.

U.S. Patent No. 4,845,176 to Konrad et al. ("Konrad"). Konrad is cited by the Examiner for the proposition that this reference, "teaches that lithium alkyls and alkyl aluminum dialkoxides are conventional cocatalysts with chromium catalysts" (Office Action, page 6, paragraph 2). Applicants maintain that, regardless of any cocatalysts recited in this reference, Konrad cannot be combined properly with McDaniel, Witt, and Debras, and even if combined, Konrad fails to remedy the deficiencies of McDaniel, Witt, and Debras, so as to teach or suggest a chromium catalyst as in Claims 30-47, 61, or 62. Rather, Konrad discloses a chromium trioxide or a chromium compound which is converted to chromium trioxide, thereby requiring a chromium catalyst in its *highest possible* oxidation state, hexavalent d^0 Cr(VI). Accordingly, Konrad provides no motivation for combining with McDaniel. Again, in view of the vast differences between the chemistry of hexavalent Cr(VI) and divalent Cr(II) (*see, for example*: Cotton and Wilkinson, *Advanced Inorganic Chemistry*, 5th Ed, pp. 679-697, Wiley Interscience, 1988), there can be no reasonable expectation of success for the Applicants' claimed invention.

U.S. Patent No. 6,245,869 to Debras et al. ("Debras"). Debras is cited by the Examiner for the proposition that, "in chromium catalysts it is conventional to use supports with surface areas and pore volumes reading on the present invention" (Office Action, page 6, paragraph 2). Applicants maintain that, regardless of any surface area or pore volume, Debras cannot be properly combined with McDaniel, Konrad, and Witt, nor does Debras teach or fairly suggest a chromium catalyst as claimed in Claims 30-47, 61, or 62. Rather, Debras discloses a chromium-

based catalyst that must be fluorinated, containing typically from 0.2 to 2 weight percent fluorine (col. 3, lines 20-22). Debras also discloses a cocatalyst system selected from at least one of an aluminum alkyl and zinc alkyl, neither teaching nor suggesting any of Applicants' cocatalysts. At best, Debras provides surface areas and pore volumes that can be used with fluorinated supports and a specific cocatalyst system not claimed by Applicants. Accordingly, Debras provides no motivation for its combination with McDaniel, with or without Konrad and Witt. Even if Debras could be combined with the other references, Debras' surface areas and pore volumes fail to remedy the deficiencies of McDaniel, Konrad, and Witt, either alone or in combination so as to render Claims 30-47, 61, and 62 obvious.

Respectfully, Applicants assert that McDaniel, Witt, Konrad, and Debras provide no motivation or suggestion to modify what they disclose, or to make any combination of these references such that *all* the limitations of Applicants' Claims 30-47, 61, and 62 are rendered obvious, therefore none of these claims is obvious under 35 U.S.C. § 103(a). Applicants note that, "[i]t is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art." *In re Wesslau*, 353 F.2d 238, 241, 147 U.S.P.Q. 391, 393 (C.C.P.A. 1965). Applicants respectfully maintain that the PTO's assertion of obviousness can only be made with hindsight, using knowledge of Applicants' disclosure. Hindsight is impermissible and only facts gleaned from the references may be used in making this determination (MPEP § 2142). Knowledge of Applicants' disclosure must be put aside in making a determination of obviousness (MPEP § 2142). Respectfully, Applicants request that this rejection under 35 U.S.C. § 103(a) be withdrawn and that Claims 30-47, 61, and 62 be allowed.

CONCLUSION

The foregoing is submitted as a full and complete Response to the final Office Action dated March 4, 2004. For at least the reasons given above, Applicants respectfully submit that Claims 30-47, 61, and 62 define patentable subject matter. Accordingly, Applicants respectfully request allowance of these claims.

This Amendment and Response is being filed within two (2) months of the final action, therefore Applicants request that an Advisory Action be issued in this case.

The Commissioner is hereby authorized to charge any additional fees or credit any overpayment to Deposit Order Account No. 09-0528.

Should the Examiner believe that anything further is necessary in order to place the application in better condition for allowance, the Examiner is respectfully requested to contact Applicants' representative at the telephone number listed below.

Respectfully submitted,



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